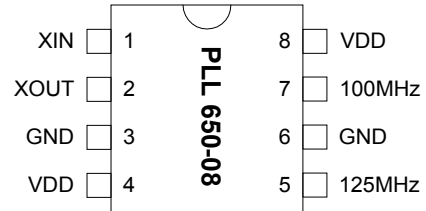


**Network LAN Clock Source**

**FEATURES**

- Full CMOS output swing with 40-mA output drive capability. 25-mA output drive at TTL level.
- Advanced, low power, sub-micron CMOS processes.
- 25MHz fundamental crystal or clock input.
- 1 output fixed at 100MHz , 1 output fixed at 125MHz .
- Zero PPM synthesis error in all clocks.
- Ideal for Network switches.
- 3.3V operation.
- Available in 8-Pin 150mil SOIC.

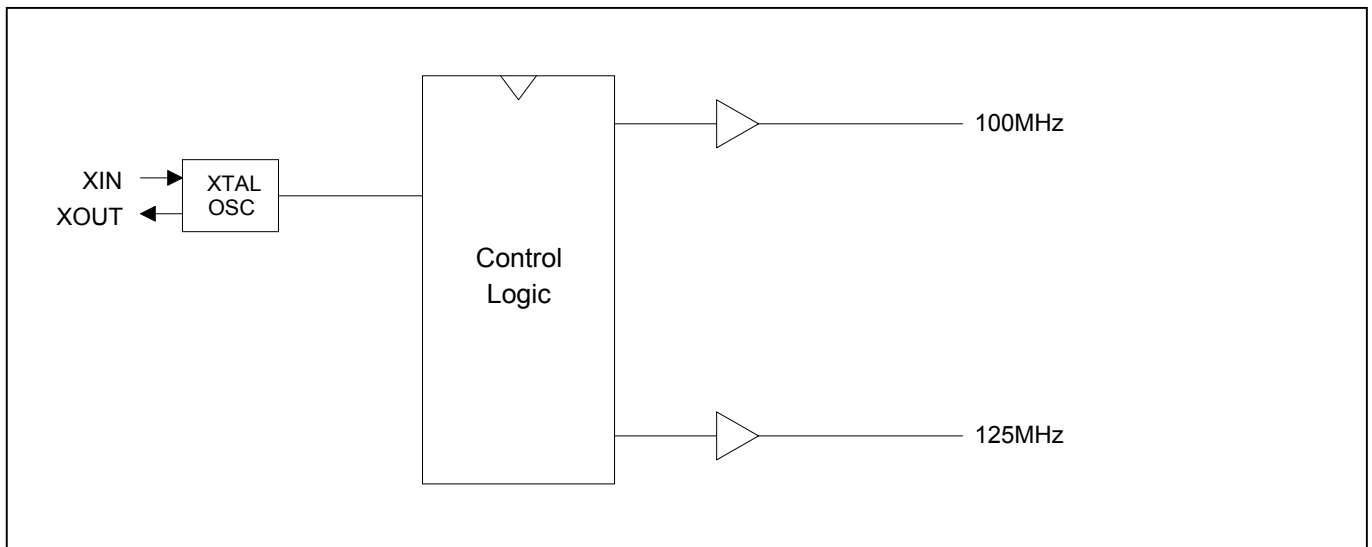
**PIN CONFIGURATION**



**DESCRIPTIONS**

The PLL 650-08 is a low cost, low jitter, and high performance clock synthesizer. With PhaseLink's proprietary analog Phase Locked Loop techniques, the chip accepts 25MHz crystal, and produces multiple output clocks for networking chips, and ASICs.

**BLOCK DIAGRAM**



**Network LAN Clock Source****PIN DESCRIPTIONS**

Name	Number	Type	Description
XIN	1	I	25MHz fundamental crystal input (20pF C <sub>L</sub> parallel resonant). C <sub>L</sub> have been integrated into the chip. No external C <sub>L</sub> capacitor is required.
XOUT	2	O	Crystal connection pin.
125MHz	5	O	125MHz output.
100MHz	7	O	100MHz output.
VDD	4,8	P	3.3V power supply
GND	3,6	P	Ground.

**Network LAN Clock Source**

**Electrical Specifications**

**1. Absolute Maximum Ratings**

PARAMETERS	SYMBOL	MIN.	MAX.	UNITS
Supply Voltage Range	V <sub>CC</sub>	-0.5	7	V
Input Voltage Range	V <sub>I</sub>	-0.5	V <sub>CC</sub> +0.5	V
Output Voltage Range	V <sub>O</sub>	-0.5	V <sub>CC</sub> +0.5	V
Soldering Temperature			260	°C
Storage Temperature	T <sub>S</sub>	-65	150	°C
Ambient Operating Temperature		0	70	°C

Exposure of the device under conditions beyond the limits specified by Maximum Ratings for extended periods may cause permanent damage to the device and affect product reliability. These conditions represent a stress rating only, and functional operations of the device at these or any other conditions above the operational limits noted in this specification is not implied.

**2. AC Specification**

PARAMETERS	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Input Frequency		10	25	27	MHz
Output Rise Time	0.8V to 2.0V with no load			1.5	ns
Output Fall Time	2.0V to 0.8V with no load			1.5	ns
Duty Cycle	At VDD/2	45	50	55	%
Max. Absolute Jitter	Short term		±150		ps
Max. Jitter, cycle to cycle				80	ps

**Network LAN Clock Source**

**3. DC Specification**

PARAMETERS	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNITS
Operating Voltage	VDD		3.13		3.47	V
Input High Voltage	V <sub>IH</sub>			VDD/2		V
Input Low Voltage	V <sub>IL</sub>			VDD/2	VDD/2 - 1	V
Input High Voltage	V <sub>IH</sub>	For all normal input	2			V
Input Low Voltage	V <sub>IL</sub>	For all normal input			0.8	V
Output High Voltage	V <sub>OH</sub>	I <sub>OH</sub> = -25mA	2.4			V
Output Low Voltage	V <sub>OL</sub>	I <sub>OL</sub> = 25mA			0.4	V
Output High Voltage At CMOS Level	V <sub>OH</sub>	I <sub>OH</sub> = -8mA	VDD-0.4			V
Operating Supply Current	I <sub>DD</sub>	No Load		35		mA
Short-circuit Current	I <sub>S</sub>			±100		mA
Nominal output current*	I <sub>out</sub>	CMOS output level	35	40		mA
Nominal output current*	I <sub>out</sub>	TTL output level	20	25		mA

**Network LAN Clock Source**

**PACKAGE INFORMATION**

8 PIN Narrow SOIC ( mm )		
Symbol	SOIC	
	Min.	Max.
A	1.35	1.75
A1	0.10	0.25
B	0.33	0.51
C	0.19	0.25
D	9.80	10.00
E	3.80	4.00
H	5.80	6.20
L	0.40	1.27
e	1.27 BSC	

**ORDERING INFORMATION**

**For part ordering, please contact our Sales Department:**  
 47745 Fremont Blvd., Fremont, CA 94538, USA  
 Tel: (510) 492-0990 Fax: (510) 492-0991

**PART NUMBER**

The order number for this device is a combination of the following:  
 Device number, Package type and Operating temperature range

**PLL650-08 S C**

PART NUMBER \_\_\_\_\_

- TEMPERATURE
- C=COMMERCIAL
- M=MILITARY
- I=INDUSTRIAL
- PACKAGE TYPE
- S=SOIC

*PhaseLink Corporation, reserves the right to make changes in its products or specifications, or both at any time without notice. The information furnished by Phaselink is believed to be accurate and reliable. However, PhaseLink makes no guarantee or warranty concerning the accuracy of said information and shall not be responsible for any loss or damage of whatever nature resulting from the use of, or reliance upon this product.*

**LIFE SUPPORT POLICY:** PhaseLink's products are not authorized for use as critical components in life support devices or systems without the express written approval of the President of PhaseLink Corporation.